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The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

MAILED

Ex parte DALE TRUEMNER
and RICHARD BOOMS

JAN 31 1996

Appeal No. 94-1821
Application 07/831,690¹

PAT & TM OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

ON BRIEF

Before MEISTER, FRANKFORT and McQUADE, Administrative Patent Judges.

MEISTER, Administrative Patent Judge.

DECISION ON APPEAL

Dale Truemner and Richard Booms (the appellants) appeal from the final rejection of claims 1, 3 and 9. Claims 2, 4-8 and 10-12, the only other claims present in the application, stand allowed. We affirm.

¹ Application for patent filed February 5, 1992.

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The appellant's invention pertains to a method and apparatus to perforate corrugated tubing. Independent claims 1 and 9 are further illustrative of the appealed subject matter and copies thereof, as they appear in the appendix to the appellants' brief, are appended to this opinion.

The references of record relied on by the examiner are:

Legg	627,462	Jun. 20, 1899
Lupke et al. (Lupke '164)	4,218,164	Aug. 19, 1980
Hegler et al. (Hegler)	4,488,467	Dec. 18, 1984
Lupke et al. (Lupke '874)	4,587,874	May 13, 1986

The following rejections are before us for consideration:²

Claims 1 and 3 stand rejected under 35 U.S.C. 103 as being unpatentable over Hegler in view of Legg. According to the examiner Hegler in column 6, lines 41-53, discloses that the drive shafts are "angled by the amount of the helical blade angle." In any event, the examiner is further of the opinion that it would have been obvious to angle the drive shafts of Hegler in view of the teachings of Legg.

Claim 9 stands rejected under 35 U.S.C. 102(b) as being anticipated by each of Lupke '874, Lupke '164 and Hegler.

² In the answer the examiner expressly withdrew the rejection of claims 4-8 and 11 under 35 U.S.C. 112, second paragraph, and the rejection of claim 9 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,180,357 to Lupke.

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Rather than reiterate the arguments of the appellants and the examiner in support of their respective positions, reference is made to the brief and answer for the full exposition thereof.

OPINION

As a preliminary matter, we observe that the appellants have stated that claims 1 and 3 "rise and fall together." Accordingly, dependent claim 3 will stand or fall with parent claim 1.

We have carefully reviewed the appellants' invention as described in the specification, the appealed claims, the prior art applied by the examiner and the respective positions advanced by the appellants in the brief and by the examiner in the answer. As a consequence of this review, we will sustain both of the above-noted rejections.

Considering first the rejection of claim 9 under 35 U.S.C. 102(b) as being anticipated by each of Lupke '874, Lupke '164 and Hegler, the appellants broadly argue that none of the prior art references "teach a feeder-cutter wheel in continuous engagement with the corrugated tubing with the cutter contained within threading on the feeder-cutter wheel itself." With specific regard to Lupke '874 the appellants note that the cutting tool rotates around its own axis and further revolves

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around the pipe itself whereas claim 1 requires that the threading of each feeder-cutter wheel is in "continuous" contact with the corrugation of the tubing. While claim 1 does require that the **threading** of each feeder-cutter wheel be in continuous contact with the corrugation of the tubing, we are at a loss to understand how this defines over the arrangement of Lupke '874. Lupke '874 discloses feeder-cutter wheels 33, 34 having threading 35 with a cutter 36 disposed within the threading (see Fig. 2 at location Y as well as Figs. 4 and 5). As the appellants have correctly noted, the feeder-cutter wheels 33, 34 rotate about their respective shafts while the shafts themselves rotate about the corrugated pipe. However, this fact notwithstanding, the **threading** 35 nevertheless remains in **continuous contact** with the corrugations of the tubing, even though the cutter 36 does not. This being the case, we find response in Lupke '874 for the provision of the threading of each wheel "being in continuous contact with the corrugation of the tubing" as broadly set forth in claim 9.

The appellants make similar arguments with respect to Lupke '164 and Hegler; however, these references operate in a manner analogous to that of Lupke '874. Lupke '164 in the embodiment of Figs. 1-6 discloses feeder-cutter wheels 19 having threading 20 with a cutter 36 disposed within the threading (see Figs. 2 and 5). While the feeder-cutter wheels 19 rotate about

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their respective shafts as the shafts themselves rotate about the corrugated pipe, the threading 20 nevertheless remains in continuous contact with the corrugations of the pipe, even though the cutter 36 does not. Hegler in the embodiment of Figs. 3 and 4 discloses feeder-cutter wheels 22' having threading 31' with cutters 40 disposed within the threading. Although the feeder-cutter wheels 22' rotate about their respective shafts as the shafts themselves rotate about the corrugated pipe, the threading 43 nevertheless remains in continuous contact with the corrugated pipe even when the cutter 36 does not. Accordingly, we also find response in both Lupke '164 and Hegler for the limitation of the threading of each wheel "being in continuous contact with the corrugation of the tubing" as set forth in claim 9.

In view of the foregoing, we will sustain the examiner's rejection under 35 U.S.C. 102(b) of claim 9 as being anticipated by each of Lupke '874, Lupke '164 and Hegler.

Turning to the rejection of claims 1 and 3 as being unpatentable over Hegler in view of Legg, the appellants argue that there is no suggestion to combine the teachings of these references in the manner proposed by the examiner. We must point out, however, the examiner has not solely relied upon the combined teachings of Hegler and Legg (i.e., that it would have been obvious to angle the drive shafts of Hegler relative to the corrugated tubing in view of the teachings of Legg). The

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examiner in formulating the rejection has stated on page 4 of the answer that "[i]t appears from lines 41-53 [of Hegler] column 6 that the drive shafts are angled by the amount of the helical blade angle," thus making it clear that he believes that Hegler taken alone teaches or suggests the provision of the drive shafts "being deployed at an angle relative to the axial path" as set forth in claim 1, with no need of resort to the teachings of Legg. We agree with the examiner that this is the case. In this regard, we note that the issue of obviousness is determined by what the references fairly suggest to those of ordinary skill in the art. See, for example, *In re Delisle*, 406 F.2d 1386, 160 USPQ 806 (CCPA 1969) and *In re Bozek*, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969). Moreover, in evaluating such references it is proper to take into account not only the specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. See *In re Preda*, 401 F.2d 825, 159 USPQ 342 (CCPA 1968).

In the present case, Hegler expressly states that

[i]t should also be added that the axes 27 and 27' of the respective cutter heads 22, 22' ... are shown in the drawings as parallel to the axis 7 of the pipe 9 or 9' only for the purposes of simplifying the drawings. In

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fact these axis must be disposed with respect to the axis 7 in accordance with the lead angle of the ridges 31 or 31', 32 and 33 resulting from the pitch t. This is achieved by the last planet wheel 18 in each case and its associated drive gear 19 being formed as bevel gears with corresponding bevel angles. (see column 6, lines 41-51; emphasis ours)

From this statement, one of ordinary skill in this art would have reasonably inferred that the shafts are disposed "at an angle relative to the axial path" as claimed or, at the least, this statement would have fairly suggested such an arrangement to the artisan. Accordingly, we will sustain the examiner's rejections of claims 1 and 3 under 35 U.S.C. 103.

The examiner's rejections of claims 1 and 3 under 35 U.S.C. 103 and claim 9 under 35 U.S.C. 102(b) are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR 1.136(a).

AFFIRMED


JAMES M. MEISTER
Administrative Patent Judge)


CHARLES E. FRANKFORT
Administrative Patent Judge)

BOARD OF PATENT
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JOHN P. MCQUADE
Administrative Patent Judge)

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APPENDIX

1. An apparatus for driving corrugated tubing and for cutting perforations in the corrugated tubing as the tubing passes along an axial path of the apparatus, the apparatus comprising:

(a) at least one pair of feeder-cutter wheels, each feeder-cutter wheel comprising:

(1) a worm,
(2) a helical threading disposed at a helical angle upon the worm to drive the tubing, and

(3) at least one cutter disposed within the threading to cut the tubing,

each feeder-cutter wheel being adapted to continuously intersect the corrugation of the tubing;

(b) at least one pair of drive shafts, each drive shaft having one of the feeder-cutter wheels axially mounted thereon, each of the drive shafts being deployed at an angle relative to the axial path; and

(c) means for rotating the drive shafts;

wherein the feeder-cutter wheels are operable to drive the tubing along the axial path through the apparatus and to cut the perforations in the corrugation of the tubing.

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9. A method of perforating corrugated tubing at high speed, the method comprising the steps of:

(a) feeding the tubing along an axial path of an apparatus for perforating corrugated tubing, the axial path being coaxial with the axis of the tubing;

(b) intersecting the tubing with a plurality of feeder-cutter wheels, each feeder-cutter wheel being mounted upon a drive shaft of the apparatus, each feeder-cutter wheel comprising a worm, a helical threading disposed upon the worm and at least one cutter disposed within the threading, the threading of each wheel being in continuous contact with the corrugation of the tubing;

(c) driving and simultaneously cutting the tubing as it moves at high speed along the axial path by continuous intersection of the tubing with the feeder-cutter wheels.